EPA/ROD/R03-95/213
1995

EPA Superfund
Record of Decision:

DOVER AIR FORCE BASE
EPA ID: DE8570024010
OU 04
DOVER, DE
03/28/1995

Text:

THE DECLARATION FOR THE RECORD OF DECISION
REMEDIAL ALTERNATIVE SELECTION

Site Name and Location

Underground Storage Tank (UST) at Building 124 (WP 32) Dover Air Force Base, Kent County, Delaware.

Statement of Basis and Purpose

This Record of Decision (ROD) presents the selected remedial action for the UST at Building 124, which was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision is based on the Administrative Record for the Site and was prepared by the United States Air Force, the lead agency, as the owner/operator of the base. Support was provided by the U.S. Environmental Protection Agency (EPA) Region III and the Delaware Department of Natural Resources and Environmental Control (DNREC).

The State of Delaware, in a letter dated May 5, 1994 to DAFB, and the Environmental Protection Agency ("EPA") concur with the selected remedy. The information supporting this remedial action decision is contained in the information repository for the Administrative Record located at the Dover Public Library, Dover, Delaware.

Assessment of the Site

A limited number of hazardous substances were detected in the soil samples only in the proximity of the storage tank, all of which were below action levels. In the 1991 Site Inspection (SI), lead was detected at an elevated concentration, but a Toxicity Characteristic Leaching Procedure ("TCLP") test in 1993 has shown that none of the metals tested leached above their detection limits. The presence of hazardous substances only in the proximity of the underground storage tank and the inaccessibility of the tank for sampling and clean out results in a determination that actual or threatened releases of hazardous substances from the building 124 underground storage tank has occurred.

Description of the Selected Remedy

The UST at Building 124 will be removed per the Delaware Regulations Governing Underground Storage Tanks (DRGUST). The UST and associated piping will be excavated, cleaned, dismantled, and disposed of as per DRGUST. Visibly contaminated soils, and soils directly beneath the tank would be sampled, analyzed, and disposed of if necessary according to DRGUST. The UST excavation would then be backfilled with clean soil and an asphalt cap would be installed and maintained to allow reuse as a parking lot. Ground water beneath this UST will be addressed in the base-wide investigation.

Statutory Determinations

The selected final remedial action for this operable unit satisfies the remedial selection process requirements of CERCLA and the NCP. The selected remedy of removal of the UST, piping and contaminated soil provides the best balance of trade-offs among the listed evaluation criteria and the mandate to consider alternative treatment and preference for permanent solutions. The selected action provides protection of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the action, including the Deleware Department of Natural Resources and Environmental Control regulations for handling underground storage tanks containing or potentially containing hazardous substances, and is cost effective. This remedy utilizes permanent solutions and alternative treatment technology to the maximum extent practicable, and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element. Because this remedy will not result in hazardous substances remaining on-site above health-based levels, the 5-year review will not apply to this action. The State of Delaware and the United States Environmental Protection Agency (EPA) concur with the selected remedy. The information supporting this remedial action decision is contained in the administrative record file located at Dover Air Force Base. The information repository and index to the Administrative Record are located in the Dover Public Library, Dover, Delaware.

Remedial Alternaties

Three alternatives were evaluated and include: 1) No Action; 2) Abandon Tank In Place; 3) Remove Tank and All Contaminated Soil.

The No Action alternative requires no actions be taken at the site. This alternative serves as a baseline for comparison and CERCLA requires it be evaluated.

Alternative 2 is to abandon the UST in place following DRGUST. Under these regulations the piping to the UST would also be excavated and removed. The interior of the UST would be cleaned and filled with concrete.

Alternative 3 is to remove the UST following the DRGUST. The piping and UST would be excavated and removed. The UST will be cleaned and disposed of appropriately. Visibly contaminated soils and those directly below the tank will be sampled and disposed of as per DRGUST. The UST excavation would then be backfilled with clean soil and an asphalt cap installed to allow reuse as a parking lot.

Decision

The final selection of tank and contaminated soil removal is based on the nine CERCLA criteria: Overall Protection of Human Health and the Environment, Compliance with Applicable or Relevant and Appropriate Requirements (ARARs), Long Term Effectiveness and Permanence, Reduction of Toxicity , Mobility, or Volume, Short Term Effectiveness, Cost, Implementability, State Acceptance, and Community Acceptance. The selected alternative provides the best balance of trade-offs among the listed evaluation criteria and the mandate to consider alternative treatments and preference for permanent solutions.

EDWIN E. TENOSO
Lieutenant General, USAF
Chairperson, AMC Environmental
Protection Committee

THOMAS C. VOLTAGGIO
Hazardous Waste Mangement
Division Director
Environmental Protection Agency
Region III

The United States Air Force has initiated this ROD for the underground storage tank at building 124, which historically received waste oil and other substances associated with automobile maintenance. Although access restrictions prevented samples from being taken from the waste oil remaining in the tank, soil samples in the immediate vicinity of the tank showed the presence of elevated metals, such as lead, and certain VOCs, such as 1,1,1-Trichloroethane. It appears that hazardous substances not normally found in oil were released from this tank. Therefore, while CERCLA's "Petroleum Exclusion" policy may apply here, EPA believes that this action is appropriate to protect the public and the environment. The State of Delaware has concurred with this remedial action.

Record of Decision
Underground Storage Tank at Building 124 (Site WP 32)
Dover Air Force Base
Kent County, Delaware

DECISION SUMMARY

Introduction

Dover Air Force Base (DAFB), in consultation with the U.S. Environmental Protection Agency (EPA) and the State of Delaware, Department of Natural Resources and Environmental Control (DNREC), has evaluated all available data for the Underground Storage Tank (UST) at Building 124. This Record of Decision (ROD) has been prepared by DAFB, the lead agency for response actions at the site, to present the selected alternative for this operable unit. This selected alternative addresses constituents in the soil. Groundwater will be addressed under a separate base-wide action.

The ROD utilizes information developed during a site investigation (SI) conducted in June 1991 and the remedial investigation field work conducted in September 1993. No comments were received on the Proposed Plan during the public comment period.

Site Name, Location & Description

The UST at Building 124 is located in the southeastern portion of the industrial section of Dover Air Force Base. The base is located in Kent County, Delaware, 3.5 miles southeast of the City of Dover (Fig 1). Bounded to the southwest by the St. Jones River, DAFB comprises approximately 4,000 acres, including annexes, easements, and leased property. The surrounding area is primarily cropland and wetlands with limited residential areas (Fig 2).

Site History and Enforcement Activities

Dover AFB began operation in December 1941 as a U.S. Army Air Corps coastal patrol base. In August 1943, the mission of the base changed to an operational training base for combat aircraft and development of air-launched rockets.

When DAFB was listed on the National Priorities List in 1989, the UST at Building 124 was identified as having the potential to release hazardous substances to the environment. There have not been any federal or state enforcement or permitting activities pertaining to this UST.

The UST at Building 124 is a 1,000-gallon underground storage tank that received waste oil from the automobile hobby shop.

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<IMG SRC 0395213A>

The tank began receiving oil in 1969. Waste oil from vehicle oil changes was poured into a receiving basin within the building. The oil flowed by gravity through a pipe into the tank. Contents of the tank were disposed of by a civilian contractor. In 1991, responsibility for disposal of the tank contents was transferred to the Defense Reutilization and Marketing Office (DRMO).

The waste oil was sampled and characterized using the Toxicity Characteristic Leaching Procedure (TCLP) prior to disposal by DRMO. None of the analytes tested for in the TCLP leached above detection limits. Use of the tank continued until mid-1991, when an above ground tank was installed to hold the waste oil.

The possibility of previous uncontrolled releases from the UST at Building 124 was evaluated by analysis of subsurface soil samples during the 1991 Site Investigation. Four samples were collected from four separate borings (B117 - B120) at depths from 2-10 feet or 2-12 feet below ground surface (BGS) (Fig 3). An additional composite soil sample comprised of surface soil from all of the four borings was also collected. Soil samples were analyzed for volatile organic compounds (voc), semi-volatile organic compounds (SVOC), and lead.

A limited number of organic analytes were detected in the subsurface soil sample at this site with elevated concentrations. Lead was detected at a concentration of 747 mg/kg (milligram per kilogram, or parts per million) in sample B 120.2-12.

The risk assessment within the SI concluded that of the six analytes detected at this site, only lead approached its health based action level. The action level for lead is based on the EPA industrial cleanup level of 1000 mg/kg. The SI recommended further study at this site to delineate the extent of lead contamination.

Further study was undertaken to address contaminants in this area as part of the base-wide remedial investigation of DAFB. Two soil borings (B429 and B430) were drilled adjacent to the tank (Fig 3) on both sides of the SI boring B120.2-12. Four samples were collected and analyzed for VOCs, SVOCs, metals, and total petroleum hydrocarbons (TPH). One sample from boring B429 was analyzed for pesticides and polychlorinated biphenyls (PCB).

The VOCs methylene chloride and acetone were detected in all of the samples at relatively low concentrations. These compounds are common laboratory contaminants and were also found in the associated sample blanks. The VOC 1,1,1-Trichloroethane was also found in two of the samples at the approximated concentrations of 4 and 9 :g/kg (micrograms per kilogram, or parts per billion). These values are well below the Maximum Contaminant Level (MCL) of 200 parts per billion (ppb). Therefore, if all of the compounds were to migrate into the groundwater, they would not pose a risk. No other VOCs were detected in any of the Remedial Investigation samples.

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Antimony, cadmium, and thallium were not detected; however, the laboratory detection limits were higher than the DAFB background concentrations. The risk based concentrations (RBC) for antimony, cadmium, and thallium are 410 mg/kg, 510 mg/kg, and 72 mg/kg (based on Thallic Oxide, T1203) respectively (Smith, October 1993). These RBCs are well above the detection limits of 9.B mg/kg for antimony, 1.1 mg/kg for cadmium and 0.65 mg/kg for thallium. This indicates the soil concentration of the metals are well below the RBCs and therefore, the three metals discussed do not pose a risk to human health. Laboratory report sheets for organic and inorganic analyses are presented in ttachment 1.

Except for lead, no other metal was detected in the samples at

levels significantly above reported DAFB background concentrations (Dames and Moore, December 1993). Lead levels in samples collected during the 1993 Remedial Investigation fieldwork ranged from 2.3 to 4.5 mg/kg. This level is within the range of DAFB background levels and below the EPA industrial cleanup level of 1000 mg/kg. Two samples were collected by DAFB from a separate boring adjacent to SI boring B120.2-12 at depths of 5 and 10 feet BGS. These samples were collected to address concerns regarding an earlier lead detection of 747 mg/kg near the underground storage tank. A toxicity characteristic leaching procedure (TCLP) test was performed to assess the potential for lead or other metals present at the site to leach from the soil and contaminate the groundwater. None of the metals tested leached above their detection limits. TCLP results are presented in Attachment 2.

Total petroleum hydrocarbons (TPH) were present in all the samples collected during the Remedial Investigation. The concentration of TPH ranged from 14.8 to 21.B mg/kg. This value is well below the action level of 1000 mg/kg promulgated in the Delaware Regulations Governing Underground Storage Tanks (DRGUST) Rev. 14 May 1993. Benzene, Toluene, Ethylbenzene, Xylene (BTEX) were analyzed, all analytes were below the 10 mg/kg action level. The laboratory report sheet for TPH analysis is presented in Attachment 3.

No semi-volatiles, pesticides, or PCBs were detected in any of the 1993 Remedial Investigation samples.

Although access restrictions prevented samples from being taken from the waste oil remaining in the tank, soil samples in the immediate vicinity of the tank showed the presence of elevated metals, such as lead, and certain VOCs, such as 1,1,1-TCA. It appears that hazardous substances not normally found in oil were released from this tank and are either continuing to be released or have the potential to be released.

Highlights of Community Participation

The Proposed Plan for this operable unit was issued on June 12, 1994. It was available for public review along with the rest of the Administrative Record in the Information Repository at the Dover Public Library, 45 State Street, Dover, Delaware 19901. The notice of public comment was published in Dover's Delaware State News and the comment period lasted from June 12, 1994 to July 12, 1994. During that time, no public comments or a request for a public meeting were received. Therefore, no public meeting was held.

Scope and Role of the Operable Unit

This remedial action addresses the removal of the UST and all contaminated soilin excess of DRGUST's promulgated levels. The cleanup objective of this action is to reduce the potential for contamination of the soil and groundwater as a result of leaks from the UST. This action will remove a potential source of soil and groundwater contamination.

The remedial action described in this ROD does not address groundwater beneath the UST at Building 124. Groundwater will be evaluated during the base-wide Remedial Investigation. The remedial actions for neighboring sites on DAFB shall be evaluated and presented as data becomes available from the base-wide

Remedial Investigation and Feasibility Study. The selected remedy presented in this RODis consistent with the strategy for remediating DAFB. Implementation of the selected alternative removes a potential contamination source and allows resources and effort to be focused on other critical areas of the base.

Summary of Site Characteristics

The base was deactivated in September 1946. From 1946 to 1950, the base was used periodically by the Air National Guard. In July 1950, the base was reactivated and designated Dover AFB. In March 1952, the base came under the command of the Military Air Transport Service (MATS) and the mission changed from air and land defense to cargo operations. Currently, DAFB is under the Air Mobility Command (AMC) and is home to the C-5 Galaxy Aircraft, providing global strategic airlift capability.

The surface topography of DAFB is relatively flat, with elevations ranging from 10-30 feet above mean sea level. Surface water runoff is handled by an extensive storm drainage network of open ditches and pipe culverts. The storm drainage network discharges into the St. Jones River, Pipe Elm and Morgan Branches.

The soils underlying DAFB consist mainly of silty sands. Depth to groundwater varies across the base from 8 to 15 feet below ground surface (BGS). Shallow groundwater is contained within the Columbia Aquifer. The Columbia Aquifer consists of medium-to-coarse sand with gravelly sand, gravel, silt, and clay lenses common throughout. The saturated thickness of the Columbia Aquifer ranges from 15 feet in the western portion of the base to 70 feet in the eastern portion. Since the Columbia is the shallowest aquifer, it is the most prone to degradation. The Columbia Aquifer is not used as a source of drinking water in the area surrounding DAFB.

Summary of Site Risks

When the UST at Building 124 was taken out of service in mid-1991, the tank was emptied to the maximum extent possible. The tank was not cleaned because it lacks sufficient access. Condensation from within the tank and moisture in the soil can work together to oxidize the metal tank and potentially additional cause leaks. Residual waste oil in the UST (which appears to be contaminated with heavy metals) is leaking or has the potential to leak from the tank and continue contaminating surrounding soils and groundwater.

Lead was detected in one soil sample adjacent to the tank during the 1991 SI at a concentration approaching the EPA cleanup level. Subsequent soil sampling during the 1993 Remedial Investigation did not confirm the high lead level or detect any other metals at concentrations above DAFB background concentrations. Samples analyzed for TCLP metals showed no metals leaching above detection limits. No semi-volatiles, pesticides or PCBs were detected in any of the 1993 Remedial Investigation samples at levels of concern.

Therefore, soils at the site currently do not pose a risk to the health of on-site workers, and it is unlikely that the soil is currently degrading groundwater above acceptable levels, because of the low concentrations of contaminants that were detected in soil samples. Groundwater at the site will be addressed during the basewide Remedial Investigation which is underway. If

groundwater contamination is detected, it will be addressed under a separate remedial action.

The base wide ecological assessment (EA) indicates the likelihood of exposure to the soil by terrestrial wildlife is low. The UST at Building 124 is located within a chain link fence and surrounded with asphalt pavement. Since the use of the facility will be as a recycling center, the pavement would be maintained, thus reducing the chance of any exposure to site soils.

Description of Alternatives

This section summarizes the three alternatives reviewed for analysis and fulfillment of applicable or relevant and appropriate requirements. The reviewed alternatives for the UST at Building 124 include:

Alternative 1:	No Action
Alternative 2:	Abandon tank in place
Alternative 3:	Remove tank and all contaminated soil

Alternative 1: The CERCLA regulations require that a "No Action" alternative be evaluated at every site to establish a base line of comparison. If this alternative is selected, no remedial action would be undertaken at this time. The site conditions would remain as they are and the qualitative risks discussed above would continue. There would be no reduction of the possible threat to human health and the environment.

Alternative 2: Under Alternative 2, the UST would be abandoned in place following the DRGUST. Under these regulations, the piping to the UST would be excavated and removed. The interior of the UST would be cleaned and the resulting liquid disposed of. The UST would then be filled with concrete to complete the abandonment. Given the fact that the tank is small (1000 gallons) and has no access hatch, cleaning the tank would be impractical.

Alternative 3: Under Alternative 3, the UST at Building 124 would be removed following the DRGUST. Piping would be excavated and removed. The UST would be removed, cleaned, dismantled, and disposed of in accordance with DRGUST. Visible contaminated soils and soil directly beneath the tank would be sampled and disposed of according to the DRGUST. DRGUST's cleanup levels for soils associated with a tank removed at this site are 10 ppm total for BTEX (benzene, toluene, ethylbenzene, xylene), 100 ppm total TPH, and 1 ppm total VOC. The UST excavation would be backfilled and an asphalt cap installed to allow reuse of the area as a parking lot.

Summary of the Comparative Analysis of Alternatives

This section provides an analysis of the performance of the alternatives in comparison to one another. The alternatives are evaluated using the nine criteria as set forth in 40 C.F.R. Section 300.430(e).

Overall Protection: Alternatives 2 and 3 will provide an acceptable level of protection of human health and environmental safety by eliminating the principal threats through contaminant source reduction and treatment. The "No Action" alternative would not afford any protection of human health and the environment.

Compliance with the ARARs: Alternatives 2 and 3 would meet their respective applicable or relevant and appropriate requirements of federal and state environmental laws, in particular, Title VII, Chapter 74 of the Delaware Code and the Delaware "Regulations Governing Underground Tank Systems" Revised May 14, 1993. However, only Alternative 3 provides for sampling directly beneath the UST.

All materials to be handled under Alternatives 2 and 3 will comply with RCRA's regulations pertaining to the treatment, storage, and disposal of wastes as defined in 40 C.F.R., Parts 260 through 268.

Long-Term Effectiveness and Permanence: Neither Alternative 1 nor 2 completely satisfy both long-term effectiveness and permanence of remediation. Alternative 3 will greatly reduce the risks presented by possible releases from the tank. Removal of potentially contaminated soil from beneath the tank will eliminate a potential source of groundwater contamination.

Reduction in Toxicity, Mobility, or Volume Through Treatment: Both Alternatives 2 and 3 will reduce the toxicity and mobility of the potential contaminants at the site. Only Alternative 3, however, provides for removal and cleaning of the UST eliminating toxic hazardous substances and waste oil residuals from the tank. Removal of the UST will allow for the excavation of any contaminated soil from beneath the tank, thereby reducing the chance of future release of contamination. Alternative 2 may allow for the removal of some of the waste oil residuals from the tank. However, since the tank is left in place after cleaning, potentially contaminated soil beneath this tank and any residuals not removed from the tank would still pose a risk. Alternative 1 will not reduce the toxicity, mobility, or volume of any contaminants at this site.

Short-Term Effectiveness: Alternatives 2 and 3 can implement tank remediation in a short period of time, approximately 2 weeks, thereby rapidly eliminating a current continuing release or the threat of a potential release. Alternative 2 becomes effective upon completion of tank clean out. Alternative 3 becomes effective upon tank and soil excavation. Alternative 1 does nothing to address potential releases from the tank.

Alternatives 2 and 3 include excavation and capping and, therefore, could pose short-term risks of exposures to volatiles and inorganic particulate emissions during construction. Off-site disposal of excavated soils, if any, will occur within a 2-week span, so worker and public exposure is of minimal risk. Alternative 1 poses no short-term risk.

Implementability: Alternatives 2 and 3 would implement tank remediation in a short period of time, approximately 2 weeks, thereby rapidly eliminating the threat of a potential release. Alternative 1 requires no action and can be implemented immediately.

Alternatives 2 and 3 both employ a proven and reliable technology, and will likely be able to implement the remedy using conventional equipment. These two alternatives also provide the best means to monitor the effectiveness of the remediation.

No difficulties with obtaining approvals from any other Federal Agency, the state or local community are expected for any of the

alternatives.

Cost: Alternative 1 has no cost associated with its implementation. Alternatives 2 and 3 are estimated to cost approximately the same amount, $55,000.

State Acceptance: The State of Delaware supports the Proposed Plan's preferred alternative.

Community Acceptance: Since no comments were received during the public comment period, the community would appear to support the Proposed Plan's preferred alternative.

Selected Alternative

The selected alternative for the UST at Building 124 is Alternative 3, removal of the tank, piping, and contaminated soil. This proposed alternative provides the best balance of trade-offs among the listed evaluation criteria and the mandate to consider alternative treatments with the preference for permanent solutions.

The selected alternative calls for the removal, treatment, and disposal to an DRGUST authorized landfill of the UST, its associated piping, and soil contaminated above DRGUST's risk based levels.

The excavation will then be backfilled with clean soil and capped with asphalt. Because the UST, its contents, and the contaminated soil surrounding it will be removed, no additional monitoring, beyond sampling to assure compliance with DRGUST's cleanup levels, is expected.

The cost to implement this remedy is expected to be about $55,000.

Statutory Determinations

The selected remedial action satisfies the remedy selection process requirements of CERCLA and the NCP. The selected remedy also provides adequate protection of human health and the environment, achieves compliance with all applicable or relevant and appropriate requirements, utilizes a permanent solution, and is cost effective.

GLOSSARY

Administrative Record: An official compilation of documents, data, reports, and other information that is considered important to the status of and decisions made relative to a site. A public version of the record is placed in the information repository to allow public access to the material.

Carcinogens: Substances which can or may cause cancer.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA).

Maximum Contaminant Level (MCL): The maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards.

Information Repository (IR): A location where copies of documents and data related to the site are placed to allow the public access to the material. The IR also contains an index for the Administrative Record.

National Priorities List (NPL): EPA's list of the nation's top priority hazardous waste sites

Operable Unit (OU): A discrete portion of work undertaken as part of the overall cleanup program. OUs can be determined geographically (grouping several sites), as phases of a complete action at a single site, or any combination of these.

Record of Decision (ROD): A legal document that describes the final remedial action selected for a site, why the remedial action was chosen, how much it will cost, and how the public responded.

Risk Assessment (RA): A means of estimating the amount of harm which a site could cause to human health and the environment. The objectives of a risk assessment are (1) to help determine the need for action by estimating the harm if the site is not cleaned up, (2) to help determine the levels of chemicals that can remain on the site and still protect human health and the environment, and (3) to provide a basis for comparing different cleanup methods.

1,1,1-TCA: 1,1,1-Trichloroethane.

Target Analyte List (TAL): A subset of the Target Compound List which includes only inorganic constituents.

Target Compound List (TCL): Developed by EPA for Superfund site sample analyses. The TCL is a list of analytes (34 VOCs, 65 SVOCs, 19 pesticides, and 7 PCBs.

Upper Confidence Limit (UCL): The upper limit of a statistical range with a specified probability that a given parameter lies below this limit.

REFERENCES

Dames and Moore, Inc./HAZWRAP, site Investigation for the Underground Storage Tank At Site S-6 (MAC Code WP32), DAFB, September 1991.

Dames and Moore, Inc./HAZWRAP, Remedial Investigation data, 1993, (Report not complete).

Shacklette, H.T., and J.G. Boerngen, 1984. Element Concentrations in Soils, and Other Surficial Materials of the Conterminous United States, U.S. Geological Survey, Professional Paper No. 1270.

Shacklette, H.T., and J.G. Boerngen, 1981. Chemical analysis of soils, and Other Surficial Materials of the Conterminous United States, U.S. Geological Survey, Open-file Report 81-197.

Smith, Roy, Oct 1993. Risk-Based Concentrations, USEPA, letter.

ATTACHMENT 1

<IMG SRC 0395213C>
<IMG SRC 0395213D>
<IMG SRC 0395213E>
<IMG SRC 0395213F>
<IMG SRC 0395213G>
<IMG SRC 0395213H>

ATTACHMENT 2

REPORT OF ANALYSIS

Project Name: Dover Air Force Base Project Number: 209993

Date Sample Collected: 12/2/93 Collected By: Client

Date Sample Received: 12/7/93 Sample Type: Soil

Analysis Requested: TCLP RCRA 8 Metals (CLIN 0019)

Date Sample Analyzed: 12/7 - 12/8/93 Analyst: REP/AM

Method of Analysis: 55 FR 11876

Parameter	155336 GM939029	155337 GM939030	Regulatory Limit
Arsenic, mg/L	<0.010	<0.010	5.0
Barium, mg/L	<0.125	<0.125	100.0
Cadmium, mg/L	<0.25	<0.25	1.0
Chromium, mg/L	<1.0	<1.0	5.0
Lead, mg/L	<0.25	<0.25	5.0
Mercury, mg/L	<0.005	<0.005	0.2
Selenium, mg/L	<0.013	<0.013	1.0
Silver, mg/L	<0.5	<0.5	5.0

ATTACHMENT 3

COMPUCHEM
LABORATORIES, INC

TOTAL PETROLEUM HYDROCARBONS
SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
1.	B429A	578355	21.8	6.3
2.	B429B	578357	21.5	6.3
3.	B429C	578362	16.8	6.3
4.	B429CDUP	578364	17.1	6.3
5.	B430A	578366	14.8	6.3
6.	B430B	578368	16.6	6.3
7.	B430C	578370	21.3	6.3

BRL = BELOW REPORTABLE LIMIT

Reviewed by/ID#: / Date:
Reviewed by/ID#: / Date: